National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

A look back

JSC's year of dedication and hard work in the space program is recounted. Story on Page 3.

Bridwell leaves

Marshall Space Flight Center Diretor retires after 38 years of service. Story on Page 4.

Space News Roundup

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Year in Review: '95 productive, pathfinding

Shuttle, space station, safety accomplishments highlight eventful year

By Kelly Humphries

There were 95 degrees showing on the thermometer and still they came, curious about how their tax dollars were being spent, intrigued by the work their neighbors told them about over the back fence and lured by the potential for a visit to Mission Control.

It was Aug. 26, 1995, and the first JSC Open House. The estimated 50,000 friends and neighbors who came were of all ages, sizes, shapes, cultures and backgrounds. The additional 20,000 people who came just for Space Center Houston's Ballunar Liftoff made the day's total of visitors swell to 70,000.

The Open House, part of a new emphasis on outreach at JSC, was a huge success thanks to the efforts of volunteers across the center. The event allowed many people a comprehensive look at JSC's training facilities, laboratories and work areas, and demonstrations of the work going on at JSC in 1995—everything from astronaut training to engineering, flight operations, and basic research.

The year 1995 was, by any measure, a highly productive and pathfinding year for the prime center for the Human Exploration and Development of Space. The significant accomplishments of '95 clearly showed the great breadth of activities at JSC, from the first three rendezvous and two dockings of American space shuttles to the Russian space station to a newly invigorated emphasis on safety in the workplace to an extensive zero-base review of how JSC spends its money.

Despite minor schedule setbacks caused by nesting woodpeckers and nozzle joint O-ring sealants, the shuttle program compiled impressive statistics. A total of 45 people rode space shuttles to orbit and/or back—35 men and 10 women. Among them were Eileen Collins, the first woman to pilot a shuttle, and five Russian cosmonauts. Over seven flights, shuttle crews were in orbit for a cumulative 78 days,14 hours, 11 minutes and 23 seconds, a feat second only to the 81-plus days of 1994.

The 1995 events that drew the greatest attention were those related to the Phase 1 Program, which included rendezvous and dockings in February, June and November. Norm Thagard, the first U.S. astronaut to ride a Russian rocket, flew to the Mir station in March for a three-month stay. With the transportation of four Russians on the shuttle, this joint expedition set a new record with

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Thagard leaves JSC to teach at alma mater

By Kyle Herring

Astronaut Norm Thagard has retired from NASA and returned to his alma mater, Florida State University. He leaves the space agency following five missions, including a U.S. record four-month stay aboard Russia's Mir station.

Thagard

Thagard accepted the position of visiting professor and director of external relations for the Florida A&M University-Florida State University College of Engineering, Tallahassee. His initial assignment—effective Jan. 5—is teaching electronics, an area that has been a long-time hobby.

Joining NASA as part of the astronaut class of 1978, Thagard flew on

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NASA Photo

Mission Specialists Leroy Chiao, left, and Dan Barry work on a portable platform in *Endeavour*'s payload bay. Chiao unraveled various lengths of cable while attached to the robot arm and Barry spent time practicing the hookup of the cables and testing his ability to manipulate tiny bolts and screws in weightlessness. He reported that most tasks could be accomplished with little difficulty.

Satellite duty, space walks occupy crew

With two satellites safely tucked in *Endeavour*'s payload bay and two space walks completed, the STS-72 astronauts are preparing for the trip home.

The crew completed the primary objectives of the mission on Wednesday and turned their attention toward onboard experiments and preparations for landing at Kennedy Space Center in the predawn hours Saturday.

STS-72 ENDEAVOUR

Commander Brian Duffy and Pilot Brent Jett maneuvered *Endeavour* toward the Japanese Space Flyer Unit and Mission Specialist Koichi Wakata plucked the satellite from its 10-month scientific voyage berthing it in *Endeavour*'s cargo bay before turning to the deployment and retrieval of the OAST-Flyer satellite. Between satellite retrievals, the crew performed two space walks to test tools and techniques for the assembly of the International Space Station.

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JSC pays tribute to seven explorers lost a decade ago

Ceremony includes period of silence, fly-over

A decade has passed since seven American space explorers were lost aboard the Space Shuttle *Challenger* on Jan. 28, 1986. On Monday, JSC will honor the crew in a brief commemoration.

The United States flag in front of Bldg. 1 will be lowered to half-staff on Sunday, Jan. 28, in honor of Commander Dick Scobee, Pilot Mike Smith, Mission Specialists Judy Resnik, El Onizuka and Ron McNair, and Payload Specialists Greg Jarvis and Christa McAuliffe.

At 10:30 a.m. CST Monday, Jan. 29, with the flag still at half-staff, all JSC employees will be temporarily excused from their work duties to gather with colleagues in paying tribute. At 10:38 a.m., the Emergency Warning System will signal the beginning of 78 seconds of silence in remembrance of the crew. The end of the period will be punctuated by a NASA T-38 "missing man" fly-over of the center.

Between 10:35 a.m. and 10:40 a.m., all traffic will be temporarily barred from entering or leaving all JSC gates. Likewise, employees are asked to cooperate by stopping their vehicles while on JSC streets and parking lots.

"The legacy of these seven brave pioneers continues in all of our hearts and in our work today," said Acting JSC Director George Abbey. "Please join with me in honoring their courage and dedication, their pursuit of knowledge and discovery. We will always remember them."

NASA administrator praises *Challenger* spirit

NASA Administrator Daniel Goldin honored the *Challenger* crew and encouraged NASA employees to carry their legacy into the future.

"The best way to honor the memories of the crew of the *Challenger*, and of all the men and women who have given their lives to explore the frontiers of air and space, is to continue their bold tradition of exploration and innovation," he said. "That's what the people of NASA do every day. They push the boundaries of knowledge and human endeavor to improve and enrich life on Earth today and secure a better future for all of us tomorrow.

"I've said many times that safety is the highest priority at today's NASA. We will not waver from that commitment. But human beings have always taken great risks to reap great rewards. Space flight is inherently dangerous and every member of the NASA team understands those risks.

"I'm proud of the women and men of NASA. They're blazing the trail to the future. They're building the components of the International Space Station. They're constructing spacecraft that will explore the farthest regions of the Solar System and the universe, and satellites that will monitor the health of our own blue planet for years to come. They're conducting cutting edge research that will make airplanes faster and safer, and they've made the space shuttle the most capable, reliable and versatile spacecraft in the world."

Johnson earns AIAA accolades

Gary Johnson, deputy director of the Safety, Reliability and Quality Assurance Directorate, will receive the annual AIAA System Effectiveness and Safety Award at a Monday luncheon being held during the Reliability and Maintainability Symposium in Las Vegas.

Johnson and Boris Sotnikov, deputy chief of the Project Division of RSA Energia, are being honored for their work on the Phase 1 Program Shuttle/Mir Joint Safety Assurance Working Group.

"They have exemplified safety and mission assurance responsibilities over a wide range of efforts across the program involving development of unique hardware, joint vehicle mission operations, analyses to identify and resolve hazardous conditions and ensuring the safety of both vehicles and both crews," said Frederick Gregory, associate administrator for Safety and Mission Assurance at NASA Headquarters. "Key to the successful accomplishment of these efforts has been Mr. Johnson's and Dr. Sotnikov's concerted effort to ensure effective joint communication, coordination and mutual consideration supporting the NASA RSA Energia partnership."

"Johnson and Sotnikov have developed a method to jointly deal with an extremely complex systems safety challenge," said SR&QA Director Charlie Harlan.

The technical disciplines in the shuttle/Mir program required rigorous systems safety analysis and hazard controls. The team integrated different methods and documentation techniques into a single joint process that met both countries' needs.

"The fact that the entire systems safety process is conducted jointly is no small challenge. Gary and Boris have worked together as a team overcoming the obvious cultural and language difficulties to establish a productive and effective systems safety program for shuttle/Mir," Harlan added.

Gary Johnson

Engineers visiting schools next month

For the fifth year, JSC employees will participate in National Engineers Week, which is Feb. 18-24.

National Engineers Week is an annual event to raise public awareness and appreciation of engineers and their work.

Through JSC's Education Outreach Program, civil service and contractor engineers and other volunteers will visit area classrooms to show students how math, science and engineering create the world around them and introduce them to technical careers.

Billie Deason, leader of the coordi-

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